"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC: 531.383

ZOLOTENKO, G. F., and ONISHCHENKO, S. M.

"On Theory of Gyrohorizoncompass With Azimuth Correction of Sensing Element Shell"

Kiev, Prikladnaya Mekhanika, Vol 7, No 12, 1971, pp 65-70

Abstract: The equilibrium of the system taking into account the disturbing moments is given by equations (2.1), which can be put in the form (2.10).

Assuming, that the disturbing moment about the precession axis is proportional to the angle that the kinetic momentum of the gyroscope makes with the vertical axis, (4.7) is the differential equation of motion. The solutions of this equation is given by (4.9), (4.11) and (4.12). In these equations the free oscillations are damped. Therefore the azimuth correction controlled by the angle of the kinetic momentum with the vertical axis results in higher compass precision.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

Acc. Nr: AP0044992 Abstracting Service: 5170 INTERNAT. AEROSPACE ABST. Ref. Code: UR0198

A70-23299 # Nonasymptotic stability of the unperturbed motion of two-rotor gyrocompasses (O neasimptoticheskoi ustoichivosti nevozmushchennogo dvizheniia dvukhrotornykh girokompasov). S. M. Onishchenko (Akademiia Nauk Ukrainskoi SSR, Institut Matematiki, Kiev, Ukrainian SSR). *Prikladnaia Mekhanika*, vol. 6, Jan. 1970, p. 124-128. 8 refs. In Russian.

Analysis of the nonasymptotic stability of the unperturbed motion of a two-rotor gyrocompass as a function of the speed and cruising latitudes of the vessel. Inequalities determining the regions of nonasymptotic stability of a two-rotor gyrocompass are discussed. It is found that the lower the speed of the vessel, the larger the selection of latitudes at which a two-rotor gyrocompass is stable, and vice versa.

V.Z.

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REEL/FRAME 19771888

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC: 621.396.673

VERSHKOV, M. V., YEVGRAFOV, V. D., ONISHCHENKO, T. A.

"A Short-Wave Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 12, Apr 72, Author's Certificate No 285837, Division H, filed 11 Jul 69, published 30 Mar 72, pp 241-242

Translation: This Author's Certificate introduces a short-wave antenna made in the form of a vertical dipole with capacitive loading. As a distinguishing feature of the patent, the working range is extended and losses are reduced by placing vertical rods of different heights around the circumference of the radiator.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

DENISOV, V. G., and ONISHCHENKO, V. F.

Shagi sredi Zveza, (Steps Among the Stars), Moscow, "Znaniye" Publishing House, 1970, 160 pp

Translation:

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CSO: 1840-W

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC: 681.327.66

BEREZIN, A. S., VAGANOV, V. I., KUZ'MIN, V. A., MOCHALKINA, O. R., ONISHCHENKO, Ye. M., ORLIKOVSKIY, A. A., PERSHENKOV, V. S., Moscow "Order of the Red Banner of Labor" Engineering Physics Institute

"An Integrated Thyristor Memory Element"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 20, Jul 72, Author's Certificate No 343299, Division G, filed 7 Oct 70, published 22 Jun 72, p 174

Translation: This Author's Certificate introduces an integrated thyristor memory element which contains a thyristor with longitudinal structure, and a recording readout transistor connected by its collector to the P-base of the thyristor, and by its base through a resistor to the word recording input. As a distinguishing feature of the patent, the degree of integration is increased, and the interference immunity and recording and readout speed are increased by connecting the readout transistor emitter to the thyristor emitter, and also through a resistor to the word readout input, and by connecting the base of the readout transistor to the zero-potential line.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC: 621.374

ONISHCHENKO, Ye. M., PERSHENKOV, V. S., KIMARSKIY, V. I.

"Optimizing the Construction of Direct-Access Memory Units on Integrated Circuitry"

Kiev, Radioelektronika, Vol 15, No 7, Jul 72, pp 877-885

Abstract: The paper deals with problems of organizing central computer storage subsystems. It is shown that selecting the configuration of a central subsystem matrix on the basis of minimizing the number of leads without considering conditions of matching to the control diodes may lead to excessive power consumption by a device based on such subsystems as well as an increase in overall dimensions and a reduction in reliability. A method is proposed which enables selecting the optimum configuration of an integrated storage subsystem which accounts for the number of leads as well as the power consumption. The procedure is applicable both to subsystems which contain only memory cells, and to subsystems with built-in controlling circuits.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EXTRACTION AND PHOTOMETRIC DETERMINATION OF ANTIMONY IN SEMICONDUCTORS USING
AUTHOR-(02)-KISH, P.P., ONISHCHENKO, YU.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. ANAL. KHIM. 1970, 25(3), 500-4

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS, CHEMISTRY, PHYSICS

TOPIC TAGS--SEMICONDUCTOR ALLOY, ANTIMONY CONTAINING ALLOY, TIN ALLOY, INDIUM ALLOY, GALLIUM ALLOY, GOLD ALLOY, BISMUTH ALLOY, METAL IMPURITY, METAL PHOTOMETRIC ANALYSIS, METAL CHEMICAL ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0383 STEP NO--UR/0075/70/025/003/0500/0504

CIRC ACCESSION NO--AP0126138

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 020 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0126138

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE SOLVENT NATURE AND THE ACIDITY OF THE MEDIUM ON THE EXTN. OF CHLORO COMPLEXES OF SB(V), AU, TL(III), GA, HG(II), AND SOME OTHER ELEMENTS WITH P,((1,4,DIMETHYL,1,2,4,TRIAZOLIN,3,YL)AZO),N,N,DIETHYLANILINE(I) WAS STUDIED. (SBCL SUB6) PRIME NEGATIVE FORMS A COMPLEX WITH I WITH MAX. ABSORBANCE AT 546-54 NM WHICH CAN BE EXTD. BY C SUB6 H SUB6, PHME, PHCL, CHCL SUB3, BUCL, AND SOME MIXED SOLVENTS. MOLAR ABSORPTIVITIES OF THE COMPLEXES RANGE 6.2 TIMES 10 PRIME4 MINUG 6.9 TIMES 10 PRIME4. PHCL EXTS. SELECTIVELY THE IONIC ASSOC. OF (SBCL SUB6) PRIME NEGATIVE WITH CATION OF I FROM 9-10N H SUB2 SO SUB4 AND MORE ACID MEDIA. A METHOD WAS DEVELOPED FOR THE EXTN. PHOTOMETRIC DETN. OF SB IN SEMICONDUCTOR ALLOYS BASED ON SN, IN, GA, AU, AND BI. HG, TL(III), AU(III), ZN(II), CO(II), MN(II), NI(II), CO (II), CR(III), AL(III), BI(III), SN(IV), AS(V), TE(VI) DO NOT INTERFERE; NEITHER DO 1000 FOLD IN(III) OR 50 FOLD FE(III). FACILITY: UZHGOROD STATE UNIV., UZHGOROD, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I.

"Electric Smelting of Oxidized Nickel Ores"

Elektroplavka Okisleniykh Nikelevykh Rud [English version above], Metallurgiya Press, 1971, 248 pages.

Translation of Annotation: Electric smelting of oxidized nickel ores to ferronickel, low-sulfur alloy and matte is described. A classification of ores and methods of preparation of ores for smelting is presented. The peculiarities of electric smelting of ores are studied. Data are presented on the influence of a number of important factors on the indicators of the process. Information is reported on the physical and thermodynamic properties of ferronickel and slag.

The book is designed for engineers and technicians at metallurgical plants, planning and scientific research institutes, teachers and students at metallurgical and chemical-technological universities and technical schools. 60 Figures; 92 Tables; 145 Biblio. Refs.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ye. I., Elektroplavka Okisleniykh Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 669.24

GRAN', N. I., ONISHCHIN, B. P., MAYZEL', Ya. I., Elektroplavka Okisleniykh Nikelevykh Rud, Metallurgiya Press, 1971, 248 pages

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--CHARACTERISTIC NOISE MATRIX OF A MULTI TERMINAL NETWORK -U-

AUTHOR-(02)-ONISHCHUK, A.G., BEGMAT, I.M.

COUNTRY OF INFO--USSR

SOURCE--IZV. VUZ RADIOELEKTRONIKA (USSR), VOL. 13, NO. 1, P. 85-7, JAN. 1970

DATE PUBLISHED----JAN70

SUBJECT AREAS--NAVIGATION

TOPIC TAGS--SCATTERING MATRIX, COMMUNICATION NETWORK, SIGNAL INTERFERENCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/0269 STEP NO--UR/0452/70/013/001/0085/0087

CIRC ACCESSION NO--AP0137374

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0137374

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE CHARACTERISTIC NOISE MATRIX N SUBS IS DERIVED IN TERMS OF THE SCATTERING MATRIX. A CLASSIFICATION IS GIVEN SHOWING THE NATURE OF N SUBS VERSUS DIFFERENT TYPES OF NETWORKS AND THEIR PARAMETERS.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 541.136

DRUZHININ, N. G., ONISHCHUK, V. A., and CHIZMADZHEV, YU. A., Moscow

"Anomalous Gas Flow Into a Liquid Through a Porous Hydrophobic Membrane"

Moscow, Elektrokhimiya, Vol 8, No 5, May 72, pp 686-689

Abstract: To achieve a stable performance of a fuel cell, it is necessary to prevent gas leakage into the electrolyte chamber through the porous electrode. Several authors noted that the reason for this process is due to the Stefan's vapor stream from the liquid through the capillaries into the gas. In this paper a quantitative theoretical treatment of this problem is given. Starting with a capillary equilibrium situation in hydrophobic pore, three positions are possible for the meniscus during gas expulsion of liquid from the capillary. The pressure differential $\Delta p = p_g - p_l$ equals to $2\sigma \cos \theta / r_0$ for the equilibrium situation, and increases to a maximum value of $2\sigma \sin \theta / r_0$, finally dropping to zero after the meniscus reaches the external surface of the capillary. Mathematical formulae have been developed describing this gas leakage as a function of temperature.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 541.138

ONISHCHUK, V. A., Moscow

"Optimization of Electric Parameters of a Multivolt Battery of Electrochemical Generators With Reference to the Method of Electrolyte Supply"

Moscow, Elektrokhimiya, Vol 8, No 5, May 72, pp 698-702

Abstract: In construction of electrochemical generator batteries with high initial voltage a necessity exists to combine several elements into a parallel system. Since the channels used for admission of the electrolyte have a finite electric resistance, considerable parasite currents begin to circulate in the battery, leading to a lowered output and to electrolysis. This problem is given a theoretical treatment. It is stated that current density as a rule is higher on the left side of a system of elements and lower on the right side, as compared to the normal cell output. The principal problem in the utilization of parallel combination of fuel cells is the electrolysis generated within the system.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 541.136.1

LIDORENKO, N. S., and ONISHCHUK, V. A.

"The Effect of Gas-Phase Mass Transfer on Fuel Cell Operation"

Moscow, Doklady Akademii Nauk, SSSR, Vol 201, No 6, Dec 71, pp 1389-1392

Abstract: A theoretical discussion is based on an electrode model of a fuel cell, one side of which is adjacent to the circulating hydrogen, the other to the electrolyte. Approximation of constant concentration is based on a small parameter Ih/Dn_oF, representing the ratio of the current I to the diffusion current in the gasseous phase FDn_o/h. If the liquid phase were absent, then the small value of this ratio would result in a small concentration gradient in the gas -- that is the approximation of steady concentration would hold. During the electrochemical reaction the situation differs considerably. Constant hydrogen concentration in the gas leads to a constant electrolyte concentration. But in such a case a diffusion member is missing in the equation for cation migration, which compensates for the migration, and so the cation migration is compensated at the expense of convection.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 028 UNCLASSIFIED PROCESSING DATE--11SEP70

TITLE--COMPLEX TREATMENT OF PATIENTS WITH SOME DISEASES OF THE GASTRO INTESTINAL TRACT -U-

AUTHOR--ONISHCHUK, V.E., PLISKEVICH, A.P., TKACH, V.N.

COUNTRY OF INFO--USSR

SOURCE--VRACHEBNOYE DELO, 1970, NR 3, PP 44-47

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--GASTROINTESTINAL SYSTEM, DUODENUM, LESION, SURGERY, DIGESTIVE SYSTEM DISEASE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1986/0965 STEP NO--UR/0475/70/000/003/0044/0047

CIRC ACCESSION NO--AP0102904

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 028 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0102904

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FAVOURABLE RESULTS ARE REPORTED OF EMPLOYMENT OF PHYSICAL AND OTHER COMPLEX HEALTH RESORT FACTORS IN THE TREATMENT OF 240 PATIENTS WITH CHRONIC GASTRITIS, 737 WITH GASTRIC AND DUODENAL ULCER, 460 OF WHICH UNDERWENT VARIOUS GASTRIC OPERATION. IMMEDIATE RESULTS PROVED SATISFACTORY IN 93.9PERCENT. REMOTE RESULTS WERE FAVOURABLE IN 76PERCENT OF PATIENTS.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--PRODUCTION OF HIGH YIELD SEMICHEMICAL PULPS FOR CORRUGATED PRODUCTS -U-

AUTHOR-(05)-SHAPIRO, A.R., SHTOFENMAKHER, N.A., ONOKHIN, I.P., PUZYREV, S.A., TSAL, TS.K.

COUNTRY OF INFO--USSR

SOURCE--ZELLST. PAPIER (LEIPZIG) 1970, 19(4), 107-8

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, BEHAVIORAL AND SOCIAL SCIENCES

TOPIC TAGS--PAPER PRODUCT, INDUSTRIAL PRODUCTION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3008/1349 STEP NO--GE/0091/70/019/004/0107/0108

CIRC ACCESSION NO--AP0138359

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 006 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0138359

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A LECTURE WITH NO REFS. THE TOPIC WAS DISCUSSED WITH RESPECT TO THE "PTK" PROCESS. FACILITY: VNIIB, LENINGRAD, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

TITLE--ANTHROPOMETRIC BASIS OF CONSTRUCTION OF LOWER EXTREMITY PROSTHESES FOR CHILDREN OF YOUNGER AGE -U-

AUTHOR--ONOKHOVA, G.P.

COUNTRY OF INFO--USSR

SOURCE--ORTOPEDIYA, TRAVMATOLOGIYA I PROTEZIROVANIYE, 1970, NR 5, PP 6-10

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PEDIATRICS, ANTHROPOMETRY, FOOTGEAR, PROSTHESIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3004/0734 STEP NO--UR/9115/70/000/005/0006/0010

CIRC ACCESSION NO--AP0131329

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 029 UNCLASSIFIED PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0131329

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE STUDY INCLUDES 649 CHILDREN BETWEEN AGES OF 1 AND 4 YEARS. VARIATION SERIES HAVE BEEN COMPILED AFTER THE BASIC SYMPTOMS OF OBTAINED DATA. MATERIAL PROCESSING USING VARIATION STATISTIC ALLOWED TO ARRIVE AT THE FOLLOWING CONCLUSIONS. THE YEARLY GAIN IN LENGTH OF LOWER EXTREMITIES DURING THE GROWTH PERIOD UNDER STUDY OVERAGED 5 CM. THE PROSTHESIS CONSTRUCTION SHOULD ALLOW ITS ELONGATION AT LEAST OF 5 CM WITHIN 6 MONTHS. IN BOYS OF ALL AGES THE FOOT LENGTH EXCEEDS THAT OF THE GIRLS. THE ANNUAL FOOT INCREASE OF MORE THAN ONE SHOE SIZE CONFIRMS THE NECESSITY OF CHANGE OF THE FOOT PROSTHESIS TWICE A YEAR. IN ALL GROUPS THE YEARLY INCREASE OF TRANSVERSE AND LONGITUDINAL KNEE SIZES AVERAGED 3,4 MM. THUS, IT IS ENOUGH TO REPLACE THE PROSTHESIS AFTER 6 MONTHS TO ASSURE CONFORMITY OF SPACE BETWEEN THE KNEE HINGES AND SIZE OF THE KNEE. SINCE THE PROSTHESES ARE BUILT LENGTHWISE, AND IN ORDER TO DISTINGUISH THE TYPE SIZES, THE SIZE "KNEE FLOOR" HAS BEEN ACCEPTED AS "BASIC". IN PROSTHESIS CONSTRUCTION THE INDIFFERENT INTERVAL AVERAGES 1 CM IN LENGTH. IT IS NECESSARY TO DISTINGUISH 9 TYPE SIZES AFTER THE BASIC SIGN "KNEE FLOOR" FOR CHILDREN OF YOUNGER AGES, THE NUMBER OF TYPE SIZES AFTER OTHER SIGNS CAN BE LOWER. FACILITY: LENINGRAD. INSTITUTA PROTEZIROVANIYA.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 615.917

NIKOLOV, S. KH., LYUBETSKIY, KH. Z., BARSEL'YANTS, G. B., ZABELIN, A. A., NEYELOV, P. V., ONOPCHENKO, H. V., CHURSINA, M. A., YEREMIN, V. M., TRENSUK, R. A.

"Toxicologic Estimate of the New Organophosphorus Pesticide Bitex"

V sb. Vliyanive ul'trazvuka, yadokhimik. i drugikh faktorov sredy na organizm cheloveka i pishch. produkty (Effect of Ultrasound, Poisons and other Factors of the Environment on the Organism of Man and Food Products -- collection of works), Krasnodar, 1971, pp 85-91 (from RZh-Farmakologiya. Khimioterapevticheskiye sredstva. Toksikologiya, No 2, Feb 72, Abstract No 2.54.773)

Translation: Rats were injected intraventricularly with bitex (an organophosphorus pesticide; I: contains 50% active principle) dissolved in water (1 ml) in doses of 100, 200, 300, 400, 500, 600, 700 and 800 mg/kg, and they were observed for 3 weeks. With a dose of 100-200 mg/kg, the activity of the cholinesterase dropped by 2-3 times during the first 1-2 days, and it began to recover after 7-11 days. The dose of 100 mg/kg was taken as the minimum toxic dose. For doses of 300 mg/kg and higher, sluggishness, increased frequency of urination, diarrhea, contraction of the pupils, tears, paresis of the extremities, a drop in body temperature of 1-5°, an increase in the sedimentation rate, leucocytosis, neutrophilosis and a reduction in the cholinesterase activity by 3-15 times were noted. The DL_{100} of I is 800 mg/kg, the DL_{50} is 384.6

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

KOLOV, S. KH., et al., Vliyaniye ul'trazvuka, yadokhimik. i drugikh faktorov redy na organizm cheloveka i pishch. produkty, Krasnodar, 1971, pp 85-91

(491.8-277.4 mg/kg). For rabbits (I was injected in doses of 25-200 mg/kg) the DL_{50} was calculated on the level of 82 (11.67-47.3) mg/kg. The pathomorphological changes in rabbits were characterized by circulatory disorders and distrophy. USSR. Krasnodar, Medical Institute.

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC: 8.74

PSHENICHNYY, B. N., ONOPCHUK, Yu. N., MARCHENKO, D. I.

"Elaboration of the Structure of a Unified Digital Model of Dynamic-Logic Objects"

V sb. Mat. metody issled. i optimiz. sistem (Mathematical Methods of Studying and Optimizing Systems--collection of works), Kiev, 1971, pp 232-249 (from RZh-Kibernetika, No 8, Aug 72, Abstract No 8V605)

[No abstract]

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 615.616.24-003.656.6

ONOPKO, B. N.

"Study of the Effect of Noise and Vibration on the Development of Experimental Silicosis"

V sb. Materialy XXI-XXII plenumov Resp. komis. po bor'be silikozom (Materials of the 21st to 22nd Plenums of the Republic Commission for Controlling Silicosis--Collection of Works) Kiev, Nauk. dumka, 1972, pp 113-117 (from RZh-Farmakologiya. Khimioterapevticheskiye Sredstva. Toksikologiya, No 3, Mar 73, Abstract No 3.54.873)

Translation: It is demonstrated that the effect of noise with 110 decibel intensity 3 hours a day (for 6 to 7 months) intensifies the development of silicosis in rats to which 100 mg powdered quartz has been administered once intratracheally. The joint effect of the noise and the general vertical vibration with a frequency of 50 hertz and an amplitude of 0.75-1.25 mm caused the development of still more expressed changes in the lungs. USSR, Donetsk, Institute of Hygiene of Labor and Professional Disease.

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Acc. Nr: AP0054300

Ref. Code: UR 9116

PRIMARY SOURCE: Ortopediya, Travmatologiya i Protezirovaniye, 1970, Nr 3, pp 30-34

DATA OF ARTERIOGRAPHY IN PRIMARY HEALING OF OBLIQUE-SPIRAL DIAPHYSARY FRACTURE

Dubrov, Ya. G.; Onopriyenko, G. A.

The dynamics of changes of the arterial network of the extremity and damaged segment in primary healing of the oblique-spiral fracture of the tibial diaphysis has been studied in 30 experiments on adult dogs. As a rule, characteristic of this type of fracture was retention of the basic blood flow along the intraosseous network of the injured bone. In response to fracture, a hypervascularization of the extremity ensued at the expense of expansion of the lumen of functioning arterial vessels from the magistral trunks up to precapillaries, as well as opening of many reserve vessels. The extremital hypervascularization observed from the first day after fracture tended to remain at maximum level for a period from 1 to 4 weeks. Normalization of the vascular net of the extremity as a whole ensued within 6 weeks. Restoration of the macroscopic picture of the tibial arterial network was observed 2 months after fracture.

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USSR

UDC 621.791.753.9

LANGER, N. A., Candidate of Technical Sciences, ONOPRIYENKO, L. M., Engineer, BLASHCHUK, V. YE., Engineer, GORBAN', V. A., Engineer, Electric Welding Institute imeni Ye. O. Paton of the Academy of Sciences UkrSSR, ISAYEV, M. M., Engineer, All-Union Scientific Research Institute of the Hydrolysis Industry, Leningrad, and SHELENKOV, G. M., Sumsk Machinery Manufacture Plant imeni M. V. Frunze

"Corrosion Resistance of Welded Joints of AT3 Alloy in Sulfuric Acid"

Kiev, Avtomaticheskaya Svarka, No 1(250), Jan 74, pp 67-68

Abstract: An experimental study was made of the corrosion resistance and the change of mechanical properties of AT3 titanium alloy and its compounds in 0.6-1.2% concentrated sulfuric acid at 180 and 200° C. The results of electrochemical investigation in 0.9% H_2SO_4 at 90° C show that automatically welded specimens behave analogously to the base metal and active zone. Manually welded specimens have an active zone of anodic dissolution; in their passive zone the current density is $2 \cdot 10^{-2}$ mA/cm^2, which is less than in the base metal ($4 \cdot 10^{-2}$ mA/cm^2). Tests conducted with sample specimens revealed that the base metal corrodes after 44 weldings at a rate of 0.014 mm/year, automatically

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USSR

LANGER, N. A., et al., Avtomaticheskaya Svarka, No 1(250), Jan 74, pp 67-68

welded joint corrodes at a rate of 0.016 mm/year, and a manually welded joint corrodes at a rate of 0.013 mm/year. Two figures, one table, two bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 621.791.05:620.193.013

MAKSIMOV, YU. A., Candidate of Technical Sciences, Institute of Metallurgy imeni A. A. Baykov, and ONOPRIYENKO, L. M., Engineer, LANGER, N. A., Candidate of Technical Sciences, and BLASHCHUK, V. YE., and GORBAN', V. A., Engineers, Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Corrosion Resistance of AK1 and AK2 Alloys Weld Joints in Hydrochloric Acid"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 74,. pp 23-24

Abstract: Compositions of alloys, possessing satisfactory properties with an oxygen content of 0.25-0.35 wt%, were selected on the basis of complex studies of the corrosion resistance of titanium-base alloys and their weld joints in hydrochloric acid. Specifically, alloys of the system Ti-2.5% V (AK1), and Ti-2.5% V-3% Al (AK2), alloy AK1 having the higher oxygen content, were tested in 5, 10, 20, and 30% HCl at 50° C where it was found that the corrosion rate of AK2 is higher than AK1 due to the presence of aluminum, but in comparison with titanium alloy VT6, AK2 has better corrosion resistance. Weld joints of the alloys studied had corrosion properties identical to the base metal. Two figures, two tables, four bibliographic references.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC: 669.29.295:621.791.052

GUREVICH, S. M., BLASHCHUK, V. Ye., ONOPRIYENKO, L. M. Electric Welding Institute imeni Ye. O. Paton, Academy of Sciences UkrSSR.

"Properties of Welded Joints of Alloys in the Systems Ti-V, Ti-V-Al and Ti-Zr-Al with High Oxygen Content"

Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1973, pp 6-8.

Abstract: This work presents a study of the mechanical and corrosion properties of welded joints of the alloys AK1 (Ti + 2.5% V), AK2 (Ti + 2.5% V + 3% Al) and AK3 (Ti + 5% Zr + 2% Al), containing 0.25-0.35% O. Rolled specimens 6 mm thick were studied. The plates were welded by an automatic single-pass argon-arc welding machine using infusable tungsten electrodes. It is shown that the strength, ductility and corrosion resistance of the welded joints are quite close to the figures for the base metal.

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UDC 535.33

USSR

YERMAKOVA, YE. G.; KRASNOVA, T. L., MALYKHINA, N. N., MOSIN, A. M., ONOPRIYENKO, M. I., CHERNYSHEV, YE. A., and SHPAK, M. T., Institute of Physics, Academy of Sciences Ukrainian SSR, Kiev

"Electron-Vibrational Absorption Spectra in the Near UV of Phenylsilane and Methylphenylsilanes"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5, May 72, pp 811-817

Abstract: The article describes results of a study of electronic vapor and crystal absorption spectra for phenylsilane $C_6H_5SiH_3$ and methylphenylsilanes $C_6H_5SiH_2CH_3$, $C_6H_5SiH(CH_3)_2$, $C_6H_5Si(CH_3)_3$, as well as a comparison of the effect of the silicon atom on the aromatic ring with the effect of carbon in hydrocarbon molecules similar in structure. It was found that replacement of the carbon atom by silicon in the molecules investigated results in a 300-360 cm^{-1} increase in the spectrum shift to the long-wavelength region and intensification of the transition considered. This indicates great distortion of the hexagonal symmetry of the pi cloud of the phenyl ring in organosilicon

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USSR

YERMAKOVA, YE. G., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5, May 72, pp 811-817

molecules as compared to the analogous hydrocarbon molecules. The spectral data suggest that there is hyperconjugation between the Si-H bonds and the phenyl ring. Electronic excitation is found to have a greater effect on the silyl group than on the alkyl group, possibly due to the $(p-d)_{\pi}$ -interaction between silicon and the pi electrons of the aromatic ring.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

UDC 621.371.332.4

USSR

ALEKSEYEV, G.V., VOLKOVSKIY, S.A., ZHUKOVSKIY, A.P., ONOPRIYENKO, YE.I., TROFIMOV, V.D. [Moscow Aviation Institute]

"Experimental Investigations Of The Effective Width Of The Surface Back Scattering Patterns And The Distribution Of Reflected Signals In The Meter And Decimeter Range"

Izv.VUZ: Radiofizika, Vol XV, No 2, Feb 1972, pp 200-210

Abstract: An account is given of a method of determining back scattering patterns (BSP) with the aid of the Doppler effect. The special features of the equipment for processing the signal are shown. Experimental values of the effective width O_{op} were obtained at wavelengths of 2 m, 68 cm, 34 cm, and 11.3 cm, and for various surfaces (sea, plowed fields, sandy-solonchak terrain with large crescent-shaped sand dunes, sparse forrest [summer]). The flights were horizontal at heights from 500--2000 m and at speeds from 200-400 km/hr. The results of conversion of O_{op} into the angle of slope are close to data obtained by the optical method. The experimentally obtained distribution confirmed the theoretical concepts concerning the signal structure and made it possible to determine the level of the mirror components as a function of the radiation frequency and the type of reflecting surface. It is concluded that experimental determinations of the effective width of the BSP are feasible in practice on the base of the Doppler effect with possible modulation of the probing signal. 4 fig. 10 ref. Received by editors, 11 Aug 69; after consolidation, 11 Oct 71.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

Navigation Aids

UDC: 621.396.96:527.623.08:527.61

USSR

YEGOROV, V. V., ONOPRIYENKO, Ye. I.

"Analysis of Self-Contained Phase Type Radio Range Finders"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 201, pp 124-142 (from RZh-Radiotekhnika, No 12, Dec 70, Abstract No 12G90)

Translation: The paper deals with theoretical analysis of airborne phase measurement devices used for determining the distance or inclined range to an extended rough surface. The instruments operate on the two-clock principle of range measurement. Two types of instruments are considered, the difference being in choice of the type of modulation and the method of signal processing in the reception and measurement channels. The statistical characteristics of the signal at the phase discriminator input are analyzed. The relationship of the average voltage and the spectral density of fluctuations at the discriminator output are discussed. Five illustrations, bibliography of six titles. N. S.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

UDC: 621.372.332.3:621.391.837.42

USSR

ONOPRIYENKO, Ye. I.

"Passage of a Complex-Modulated Signal and Noise Through a Frequency Detector"

Tr. Mosk. aviats. in-ta (Works of the Moscow Aviation Institute), 1970, vyp. 208, pp 20-28 (from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1G19)

Translation: This problem is associated in particular with measurement of the parameters of motion of a flying vehicle relative to an extended rough surface. A signal is considered which is the resultant of signals reflected by scattering elements with different ranges. A regular component which is coherent with the signal being studied is superimposed on this resultant in the case where the surface irregularities are shorter than a wavelength. Bibliography of 7 titles. N. S.

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USSR

UDC 621.371.332.4

ALEKSEYEV, G. V., VOLKOVSKIY, S. A., ZHUKOVSKIY, A. P., ONOPRIYENKO, E. I., TROFIMOV, V. D., Moscow Aviation Institute

"Experimental Studies of the Effective Backscattering Pattern Width of Surfaces and the Distribution of Reflected Signals in the Meter and Decimeter Wave Ranges"

Gor'kiy, Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 2, 1972, pp 200-210

Abstract: A study was made of a procedure for determining the backscatter pattern of a surface using the doppler effect. Results are presented from experimental studies in the waverange from 11 cm to 2 meters above different types of surfaces (the sea, plowedfields, forest and sand dunes). Results are presented also from measuring the ratios of the levels of the reflected and scattered components of the echo on the basis of the distribution laws obtained. The possibility of remote determination of the statistical characteristics of the surface is indicated.

In practice, experimental determinations of the effective width of the backscatter pattern on the basis of the doppler effect considering possible modulation of the sounding signal are possible. Experimental values of $\theta_{1/2}$ backscatter [the effective width of the backscatter pattern] are presented i

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USSR

ALEKSEYEV, G. V., et al., Izvestiya vysshikh uchebnykh zavedeniy, Radiofizika, Vol XV, No 2, 1972, pp 300-210

a broad wave range and for the various mentioned surfaces. The results of recalculating $\Theta_{backscatter}$ in the mean square value of the angle of inclination $\beta_{mean\ square}$ are close to the data obtained by the optical method. The demonstrated characteristic nonstationarity of the echo has a significant effect on the shape of the experimental distributions. The method of synchronous processing permits consideration of the mentioned characteristic. The experimentally determined distributions confirmed the theoretical principles of signal structure and they permitted determination of the level of the reflected component as a function of the radiation frequency and type of reflecting surface.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THE FORMATION OF DOSE FIELDS ON PROTON BEAM OF ITEP ACCELERATOR -U-

AUTHOR-(05)-BLOKHIN, S.I., GOLDIN, L.L., KLEYNBOK, YA.L., LOMANOV, M.F., ONOSOVSKIY, K.K.

COUNTRY OF INFO--USSR

SOURCE--MEDITSINSKAYA RADIOLOGIYA, 1970, VOL 15, NR 5, PP 64-68

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--MEDICAL APPARATUS, PROTON ACCELERATOR, RADIATION DOSAGE/(U)ITEP ACCELERATOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1997/1958 STEP NO--UR/0241/70/015/005/0064/0068

CIRC ACCESSION NO--AP0120601

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 025 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120601

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE DISCUSSES THE TECHNIQUE OF FORMATION OF DOSE FIELDS OF WIDE PROTON BEAMS ALONG THE AXIS OF THE BEAM AND IN TRANSVERSE DIRECTION, AS WELL AS THE CONSTRUCTIVE FEATURES SPECIFIC FOR THE EQUIPMENT USED FOR THESE PURPOSES. DOSE FIELDS FORMED ON A MIDEICO BIOLOGICAL PROTON BEAM OF ITEP ACCELERATOR. FACILITY: INSTITUT EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI AN SSSR.

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USSR

BALAKIN, V. YE., BUKIN, A. D., KURDADZE, L. M., ONUCHIN, A. P., PAKHTUSOVA, YE. V., SEREDNYAKOV, S. I., SIDOROV, V. A., and KHABAKHPASHEV, A. G., Institute of Nuclear Physics of the Siberian Department of the Academy of Sciences USSR

"Observation of Double e^+e^--Pair Production"

Moscow, Yadernaya Fizika, Vol 16, No 4, 1972, pp 729-733

Abstract: The article describes results of the first experiments (in 1969 and 1970) on the observation of the process of the double pair production of the electron-positron pairs $e^+e^- \rightarrow e^+e^-+e^+e^-$ on a VEPP-2 positron-electron accelerator ring. Papers on this work were presented in 1971 at international conferences in Amsterdam and Cornell. The cross-section of the process for large angles of emission for the produced particles was measured. The experimental results were found to be in agreement with the theoretical calculations of V. N. BAYYER and V. S. FADIN.

The authors thank V. N. BAYYER and V. S. FADIN for discussions.

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USSR

UDC: 621.9.048.4

MOROZENKO, V. N., ONUFRIYENKO, I. P., GASIK, L. N., ZHURA, V. I., MOLCHANOVA, L. V.

"Electrospark Production of Polymetallic Compositions"

Kishinev, Elektronnaya Obrabotka Materialov, No 4(46), Aug/Sep 72, pp 8-12

Abstract: The paper gives the results of experimental studies of electrospark formation of polymetallic compositions produced by the set-up shown in the figure. Hinged to rotor 1 are anode rods of tungsten, copper, chromium and silver. Swinging out as the rotor turns, the anodes periodically approach the surface of cathode 2. By properly combining the rotational velocities ω_1 and ω_2 on the one hand, and velocity ω_1 and the pulse repetition frequency of the spark oscillator on the other hand, the transfer of anode material can be regulated so as to form overlapping alloyed zones а, б, в, г. Experimental studies show that this method of alloying can be used to produce intermetallic compounds in surfacing which cannot be made in any conventional metallurgical process. By proper selection of parameters, surfaces with any desired physical properties can be produced.

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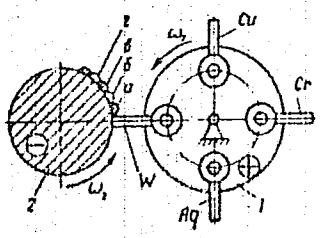
USSR

MOROZENKO, V. N. et al., Elektronnaya Obrabotka Materialov, No 4(46), Aug/Sep 72, pp 8-12



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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 039 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--EQUATIONS OF THE SEMIEMPIRICAL THEORY OF TURBULENT TRANSPORT -U-

AUTHOR--GNUFRIYEV, A.T.

COUNTRY OF INFO--USSR

SOURCE--PMTF ZHURNAL PRIKLADNOI MEKHANIKI I TEKHNICHESKOI FIZIKI,
MAR.-APR. 1970, P. 62-71
DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--NONISENTROPIC FLOW, VELOCITY DISTRIBUTION, DISTRIBUTION FUNCTION, TURBULENT FLOW, FLOW ANALYSIS, DIFFERENTIAL EQUATION SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/1600 STEP NO--UR/0207/70/000/000/0062/0071

CIRC ACCESSION NO--AP0133510
UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

CIRC ACCESSION NO--AP0133510

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. CONSTRUCTION OF A CLOSED SYSTEM OF EQUATIONS FOR A FLOW OF NONISOTROPIC CHARACTER UNDER THE ASSUMPTION THAT THE MIXING LENGTH IS NOT SMALL IN COMPARISON WITH THE CHARACTERISTIC DIMENSION OF THE FLOW. IT IS ASSUMED THAT THE VELOCITY PULSATION FIELD MAY BE CHARACTERIZED BY A MULTIPOINT DISTRIBUTION FUNCTION WHICH SATISFIES THE CONTINUITY EQUATION. THIS MAKES IT POSSIBLE TO OBTAIN THE EQUATIONS FOR A SINGLE POINT AND A TWO POINT DISTRIBUTION FUNCTION. A NUMBER OF ASSUMPTIONS ARE MADE CONCERNING THE NATURE OF THE FORCES ACTING ON TURBULENCE FORMATION IN THE FLOW, CONCERNING THE RELATION BETWEEN THE CORRELATION TIME OF A RANDOM FORCE AND THE TURBULENCE SCALE AND INTENSITY, AND CONCERNING THE EXPRESSION FOR THE CORRELATION TENSOR IN THE ISOTROPIC CASE. AFTER CALCULATING THE MOMENTS, A SYSTEM OF REYNOLDS EQUATIONS IS OBTAINED, IN WHICH THE APPROXIMATIONS USUALLY MADE ON THE BASIS OF DIMENSIONALITY CONSIDERATIONS FOLLOW FOR A NUMBER OF TERMS. THE CLOSING OF THE SYSTEM OF EQUATIONS FOR THE MOMENTS REDUCES TO THE SOLUTION OF THE EQUATION FOR THE DISTRIBUTION FUNCTION. IN THIS CASE IT IS SHOWN THAT THE INTEGRAL NATURE OF THE TRANSPORT IS RELATED TO AN ALLOWANCE FOR THIRD ORDER MOMENTS. A NUMBER OF EXAMPLES OF FLOWS ARE CONSIDERED, AND THE VALUES OF THE EMPIRICAL CONSTANTS ARE DETERMINED. THE SYSTEM OF EQUATIONS THUS OBTAINED MAKES IT POSSIBLE TO CONSIDER FLOWS WITH HIGHLY ANISOTROPIC TURBULENT TRANSPORT.

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USSR UDC 619:616.988.43-07:636.22/.28

KHUKHOROV, V. M., ZUBOV, I. V., MURAV'YEV, V. K., ONUFRIYEV, V. P., PRONINA, N. A., SMIRNOV, V. I., and FILATOV, I. P., All-Union Scientific Research Institute of Foot-and-Mouth Disease

"Course of Foot-and-Mouth Disease in Areas in Which Mass Immunization Had Been Carried Out"

Moscow, Veterinariya, No 1, Jan 73, pp 50-51

Abstract: Studies carried out at foot-and-mouth disease epizootic foci at which specific prophylaxis of cattle (immunization with inactivated aluminum hydroxide formol vaccine containing saponin) had been applied on a mass scale indicated the occurence of atypical infections in cases in which the virus of the disease had been brought in later. Virus carriers were detected among immunized animals that did not exhibit clinical symptoms of the disease, but had been in contact with sick animals, and also among animals that had recovered from the disease.

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USSR UDC 619:616.9-022+636.1+636.2+636.4+636.52/.58

MURAVYEV, V. K.; KHUKHOROV, V. M.; SHORSHNEV, V. I.; PRONINA, N. A.; SMIRNOV, V. I.; ONUFRIYEV, V. P.

"Immunological Reactivity of Cattle Treated With Saponin Foot-and-Mouth Disease Vaccine at Different Ages"

Vladimir, V sb. Yashchur (Foot-and-Mouth Disease -- Collection of Works), 1970, pp 74-75 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.574, by E. Sorvachev)

Translation: The dynamics of formation of virus-neutralizing antibodies (VNA) was studied in cattle aged 1-, 3-, 6-, and 12-months and older, 7, 14, 21, 30, 60, and 90 days after vaccination with aluminum hydroxide vaccine -- a formol vaccine from lapinized A_{22} virus of foot-and-mouth disease with various doses of saponin. Animals of each age group were vaccinated with 10 DV_{50} in doses of 4.3 ml (the immunizing dose was determined on guinea pigs), containing saponin in amounts of 2.5, 5, and 10 mg. The VNA titers in the sera of animals were determined on baby mice given 10^3 LD_{50} of the virus. It was found that

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MURAVYEV, V. K., et al, V sb. Yashchur, 1970, pp 74-75

administration of the vaccine with a saponin dose of 5 and 10 mg to 1-month and 3-month-old calves led to a more significant increase in the VNA titer than in 12-month-old bull calves and adult animals. The local reaction to the introduction of saponin-containing aluminum hydroxide vaccine was less pronounced in calves than in adult animals.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 619.611.9-022.6+636.1+636.2+636.4+636.52/.58

ONUFRIYEV, V. P.; DUDNIKOV, A. I.; MURAVYEV, V. K.; SHVETSOV, Yu. F.; CHUNAYEV, Yu. V.; KRAVCHENKO, V. M.; ZAKHAROV, V. M.; PRONIN, I. A.; NIKITIN, A. Y.

"Diatelic Immunization of Cows with Foot-and-Mouth Disease and Prospects for Obtaining Immune Milk"

Vladimir, V sb. Yashchur. T. 1 (Foot-and-Mouth Disease, Vol 1 -- Collection of Works), 1970, pp 160-172 (from RZh-58. Zhivotnovodstvo i Veterinariya, No 4, Apr 71, Abstract No 4.58.573)

Translation: Diatelic immunization of cows with foot-and-mouth disease antibodies provides lactoserum and immunolactone with a high concentration of foot-and-mouth disease antibodies. The foot-and-mouth disease immunolactone has pronounced preventive properties in research with baby mice, guinea pigs, bull calves, and suckling pigs. Polyvalent foot-and-mouth disease immunolactone has a more pronounced virus-neutralizing activity with respect to heterologous strains of foot-and-mouth disease virus

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USSR

ONUFRIYEV, V. P., et al, V sb. Yashchur. T. 1, 1970, pp 160-172

than the monovalent one. The high specific activity of the foot-and-mouth disease lactone, obtained under biological production conditions by immunization of cows with inactivated foot-and-mouth disease virus, indicates a promising use of the diatelic immunization method under industrial conditions.

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USSR UDC 621.396.967:629.7.072.8

ONUFRIYEV, V. P., KUZNETSOV, V. N., PETRUCHEK, T. P.

"An Imitator of Meteoric Radar Signals"

Radiotekhnika. Resp. mezhved. nauch-tekhn. sb. (Radio Engineering. Republic Interdepartmental Scientific and Technical Collection), 1971, vyp. 12, pp 38-40 (from RZh-Radiotekhnika, No 7, Jul 71, Abstract No 7G51)

Translation: This paper discusses development of a simulator designed for checking whether the units and modules of radar installations are functioning properly, and for imitating various characteristics of reflections from meteor trails. A description is given of an imitator which can be used to simulate Doppler frequency shift of a coherent pulse radar, and the time of existence of a reflection from a meteor trail. The Doppler frequency shift is simulated by means of two frequencies whose difference can be varied. The problem of obtaining the two frequencies is solved by the method of successive frequency displacement with splitting into two frequency channels. A block diagram of the simulator is presented and described. One illustration. Resumé.

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USSR

UDC 619-616.988.43:576.809.7

FOMINA, M. S., DRYAGALIN, N. N., SHAZHKO, Zh. A., and ONUFRIYEV, V. P.,
All Union Scientific Research Institute of Foot-and-Mouth Disease

"Antigenic Properties of Type C Foot-and-Mouth Disease Virus"

Moscow, Veterinariya, No 9, Sep 70, pp 40-42

Abstract: It was long held that type C foot-and-mouth disease virus, unlike types O and A, does not show variations in its antigenic properties. However, two strains of type C isolated in Great Britain exhibited considerable differences. Six strains of type C -- C-Polish, C-Czechoslovakian, C-TL-112 (received from Czechoslovakia), C-PL-42 (received from Poland), C-standard, and C-65 -- were studied in order to establish antigenic variations. On the basis of cross titration, complement-fixation and neutralization tests, the antigenic similarity of the strains (expressed in R%) was determined. The R values were calculated by a method described in the literature. Using the six strains, R was found to be 33-100% and 65-96% for the complement fixation and neutralization reactions, respectively. C-Polish, C-PL-42, and C-Czechoslovakian were identical (R = 91-100%). They differed considerably from C-65 (R = 55-70%) and C-standard (R = 33-48%). C-65 and C-standard differed from each other (R = 50%).

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

UDC: 550.834

USSR

SHEKHTER, Z. Kh., OOKOLOV, G. S., PETROV, B. I., LERNER, B. L., DADERKO, Yu. R., BARYSHNIKOV, G. P., Special Design Office of Seismic Instrument Building

"A Device for Registration of Seismic Information in Digital Form"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 23, Aug 72, Author's Certificate No 346694, Division G, filed 20 Aug 71, published 28 Jul 72, p 188

Translation: This Author's Certificate introduces a device for registration of seismic information in digital form. The device contains amplifiers in accordance with the number of channels, a multiplexer, an analog code converter, a single-channel digital plotter, and a single-channel playback circuit. As a distinguishing feature of the patent, in order to simplify computer input of recorded seismic information, and to visualize recorded data by means of a single-channel playback device through sequential path-by-path representation of multichannel seismic data in serial digital code on a single track of the magnetic tape, a code converter and an intermediate memory module are added. The code converter

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SHEKHTER, Z. Kh. et al., USSR Author's Certificate No 346694

has a single input connected to the output of the analog code converter, and several outputs of demultiplexed signals in serial code to equal the number of seismic channels. In the registration mode, each of the converter outputs is connected through a commutator to its own section of the intermediate memory. In the mode of path-by-path transcription of signals from the intermediate memory to a single track of the magnetic tape and to the visible information medium, the sections of the intermediate memory which each have their own corresponding seismic recording path are connected to the main head of the digital plotter and to the input of the single-channel playback circuit through the same commutator used for sequential switching of these signal sections.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 669.295:621.785.53

KIDIN, I. N., ANDRYUSHECHKIN, V. I., OPALEV, S. B., POGOZHEV, A. I., Moscow Institute of Steel and Alloys

"Calorizing Titanium and VT-14 Alloy in Powders With the Use of Electric Heating"

Moscow, IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 139-1422

Abstract: The authors study diffusion calorizing of technically pure titanium VT1-0 and titanium alloy VT-14 with the use of high-speed electric heating. The specimens were flat strips measuring 60 × 5 mm in thicknesses of 0.3-0.6 mm. Calorizing was done at 1000-1100°C for 3-10 minutes. The specimens were heated at rates of 10 and 500 deg/s by direct passage of electric current through them. Temperature was measured by a chromel--alumel thermocouple accurate within ±5 deg. Calorizing was done in powders consisting of a mixture of aluminum (30-70%), aluminum oxide (67-27%) and ammonium chloride (3%). The process was done in argon to prevent oxidation. The structure, phase composition of the diffusion layers and the aluminum content in these layers were studied by methods of metallographic, x-ray radiographic phase and microscopic x-ray spectral analysis, as well as by

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USSR

KIDIN, I. N., et al., IVUZ. Chernaya Metallurgiya, No 5, 1972, pp 139-142

measurements of the microhardness and microthermoelectromotive force. It was found that diffusion layers 50-100 μm deep can be produced in 5-10 minutes. The use of electric heating intensifies the process of titanium calorizing. Increasing the rate of electric heating forms deeper diffusion layers. Calorizing increased the thermal stability of pure titanium by a factor of 10, and that of VT-14 alloy by a factor of 5.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

KIDIN, I. N., ANDRYUSHECHKIN, V. I., and OPALEV, S. B., Moscow Institute of Steel and Alloys

"The Interaction of Titanium With Rarefied Air During Electric Heating"

Moscow, Izvestiya vysshikh uchebnykh zavedeniy: Chernaya metallurgiya, No 5, 1971, pp 139-142

Abstract: The authors study the interaction of grade VT1-0 commercially pure titanium with the residual gases of laboratory air at a rarefaction of 10^{-1} mm Hg under conditions of rapid electric heating and slow heating in a furnace. The study was conducted using specimens made from anncaled, commercial VT1-0 grade titanium (C=0.33%, N_2 = 0.02%, H_2 = 0.004%, Fe = 0.08%, Si = 0.04%, and O_2 = 0.1%) with the following dimensions: 0.1 x 10 x 65 mm. The specimens were electrically heated by passing industrial frequency electric current directly through them. Slow heating was accomplished in an electric resistance furnace. The electric heating rate in the phase transformation temperature range for titanium was 150 degrees/sec. (1.5 degrees/sec. in the case of heating in the furnace). The rate of cooling in the same temperature interval was 50-70 degrees/sec. The phase transformation temperature was 880° C. This was determined by the inflection on the cooling curves. The

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

KIDIN, I. N., et al., Izvestiya vysshikh uchebnykh zavedeniy: Chernaya metallurgiya, No 5, 1971, pp 139-142

temperature was measured using a chromium-aluminum thermocouple. The interaction of titanium with rarefied air was studied within the 800-1000°C interval. Methods of electric resistance, micro-hardness, and microthermoelectromotive force measurements, along with weight analysis, indicate a great degree of activity in the interaction between the gas medium and titanium in the case of electric heating as opposed to slow heating in a furnace. Under experimental conditions, in addition to the diffusion of oxygen into titanium, a significant quantity of nitrogen also is diffused. Original article: three figures, one formula, and six bibliographic entries.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

UNCLASSIFIED PROCESSING DATE--17JUL70

TITLE--STUDY OF THE VIBRATION STRESS OF SHROUDED AIRCRAFT ENGINE TURBINE BLADES -U-

AUTHOR--RZHAVIN, L.N., OPALIKHIN, N.I., NAIVEYEV, V.V.

COUNTRY OF INFO--USSR

SOURCE--PROBLEMY PROCHNOSTI, VOL. 2, FEB. 1970, P. 3-7

DATE PUBLISHED--------70

SUBJECT AREAS--PROPULSION AND FUELS, AERONAUTICS, ENERGY CONVERSION (NON-PROPULSIVE)

TOPIC TAGS--VIBRATION STRESS, AIRCRAFT ENGINE, TURBINE SHROUD, TURBINE BLADE, GAS TURBINE ENGINE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1978/1841 STEP NO--UR/3663/70/002/000/0003/0007

CIRC ACCESSION NO--AP0046577 UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

Acc. Nr: AP0046577 Abstracting Service: INTERNAT. AEROSPACE ABST. Ref. Code: 5-70 21R3663

A70-25288 # Study of the vibration stress of shrouded aircraft engine turbine blades (Issledovanie vibratsionnoi napriazhennosti bandazhirovannykh turbinnykh lopatok, aviatsionnykh dvigatelei). L. N. Rzhavin, N. I. Opalikhin, and V. V. Matveev (Akademiia Nauk Ukrainskoi SSR, Institut Problem Prochnosti, Kiev, Ukrainian SSR). *Problemy Prochnosti*, vol. 2, Feb. 1970, p. 3-7. In Russian.

Results of an experimental study of the vibration stress of a new type of construction of shrouded aircraft engine turbine blades, using various methods of joining the shrouds. On the basis of a tensometric analysis of these blades on a working engine, it is found that setting up paired blades with a fixed tension along the shrouds ensures minimum vibration stress on the blades during vibrations in the first flexural mode under all conditions of operation of the engine. A.B.K.

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REEL/FRAME 19781841

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 546.791'161

OPALOVSKIY, A. A., KUZNETSOVA, Z. M., NESTERENKO, M. N., and SHINGAREV, V. G.

"The System HF-UF_6-NH_4F"

Leningrad, Radiokhimiya, Vol 15, No 4, 1973, pp 615-618

Abstract: Study of the isothermal solubility in the systems HF-MoF_6-NH_4F and HF-UF_6-NH_4F leads to several observations. One of the universal characteristics of this system is the formation of ammonium heptafluoro-molybdates and uranates with the formula NH_4MeF_7, representing a new synthetic route for such materials. In this system uranium hexafluoride is more soluble than molybdenum hexafluoride with increasing concentration of ammonium fluoride in the solution, probably because of the formation of NH_4UF_7. The reaction mechanism in this system consists of dissociation of the NH_4F followed by formation of $[NeF_7]^-$ and finally of the reaction product NH_4MeF_7.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR

UDC 546.26:546.161-32

OPALOVSKIY, A. A., NAZAROV, A. S., and UMINSKIY, A. A., Institute of Inorganic Chemistry, Siberian Branch Acad. Sc. USSR, Novosibirsk

"Laminar Compounds of Graphite With Hydrogen Fluoride"

Moscow, Zhurnal Neorganicheskoy Khimii, Vol 17, No 5, May 72, pp 1214-1216

Abstract: A desorption insobar of the system graphite-HF has been reported in temperature range 0-115°C and pressure of HF at 4.23 mm Hg. The ability to form compounds of graphite with inorganic fluorides was thus shown; the composition of the products was C_nHF where n = 4, 5, 6, 7, or 8. In analogy with other graphite compounds with inorganic materials it has been assumed that the graphite-Hf compounds are of the laminar type.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 669.28.051

YEREMENKO, V. N., LISTOVNICHIY, V. YE., OPALOVSKIY, A. A., and FEDOROV, V. YE.

"Physicochemical Investigation of the System Molybdenum-Sulfur"

V sb. Khal'kogenidy (Chalcogenides--collection of works), Vyp 2, Kiev, "Naukova Dumka", 1970, pp 92-97 (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G181)

Translation: A physicochemical investigation is conducted of the system Mo-S by the methods of thermography, radiography, metallography, dilatometry, and resistometry. It is established that in the region of concentration up to 26 wt. % S, a two-phase field of crystallization of Mo + Mo_2S_3 with a 1540° temperature of the "solidus" line is realized. 2 ill., 2 tables.

S. Krivonosova

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 669.27'849.051

OPALOVSKIY, A. A., FEDOROV, V. YE., and LOBKOV, YE. U.

"Investigation of the Process of Interaction of Tungsten and Rhenium With Chalcogene"

V sb. Khal'kogenidy (Chalcogenides--collection of works), Vyp 2, Kiev, "Naukova Dumka", 1970, pp 86-92 (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G171)

Translation: For the selection of regimes for the synthesis of WSe_2, WTe_2, $ReSe_2$, and $ReTe_2$, the nature of metal interaction with chalcogene is studied by the thermographic method. The mixtures W-Se, W-Te, Re-Se, and Re-Te of different composition (ratio of metal: chalcogene 1 : 1; 1 : 1.5, and 1 : 1) are studied. A study is made of the vacuum-thermal decomposition of the selenides and tellurides W and Re, and a study is conducted of the mechanism and kinetics of interaction of these metals with chalcogenes. 1 ill., 2 tables, 18 bibl. entries. S. Krivonosova

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

USSR UDC 669.28.051

OPALOVSKIY, A. A., and FEDOROV, V. YE.

"New Data in the Area of Investigation of Molybdenum Chalcogenides"

V sb. Khal'kogenidy (Chalcogenides--collection of works), Vyp 2, Kiev, "Naukova Dumka", 1970, pp 77-85 (from RZH-Metallurgiya, No 11, Nov 70, Abstract No 11G180)

Translation: This is a review of investigations of Mo chalcogenides; thermal decomposition of MoS_2; results of the study of equilibrium in the system Mo-S-H; working out of a method of synthesis of MoS_2, used as a lubricant; investigation of MoS_2 lubricating properties; investigation of lower Mo chalcogenides and methods for their production; study of the systems Mo-Se, Mo-Te, and Mo-S; crystal structure and chemical properties of Mo chalcogenides. 17 bibl. entries. S. Krivonosova

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 022 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--THE SYNTHESIS AND PHYSICAL CHEMISTRY INVESTIGATIONS
FLUOROPLATINATIS SOME OF METALS -U-

AUTHOR-(02)-ZEMSKOV, S.V., OPALOVSKIY, A.A.

COUNTRY OF INFO--USSR

SOURCE--IZVESTIYA SIBIRSKOGO OTDELENIYA AKADEMII NAUK SSSR, NO 4, SERIYA KHIMICHESKIKH NAUK, 1970, NR 2, PP 95-101

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--PLATINUM COMPOUND, IR SPECTRUM, RARE EARTH COMPOUND, POLYCRYSTAL, NMR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1993/0585 STEP NO--UR/0289/70/000/000/0095/0101

CIRC ACCESSION NO--AP0113476

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

UNCLASSIFIED PROCESSING DATE--13NOV70

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CIRC ACCESSION NO--AP0113476

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THIS PAPER DEALS WITH THE RESULTS OF STUDIES ON ALKALI, ALKALI EARTH, AND RARE EARTH FLUOROPLATINATES SYNTHESIS AND ON STRUCTURAL PECULIARITIES OF THESE COMPOUNDS BY NMR OF F. SIMULTANEOUSLY THE ABOVE COMPOUNDS WERE STUDIED BY THE UR AND OTA METHODS. IT WAS FOUND THAT BY MEANS OF VARYING THE TEMPERATURE IT WAS POSSIBLE TO OBTAIN ALKALI, ALKALI EARTH, AND RARE EARTH FLUOROPLATINATES AS WELL AS FLUOROPLATINATES OF SILVER, COPPER AND IRON WITH APPROXIMATELY 100PERCENT YIELD BY THE ACTION OF GASEOUS CHLOROTRIFLUORIDE ON RESPECTIVE CHLOROPLATINATES. THE NMR F STUDY OF POLYCRYSTALLINE SPECIMENS OF THE OBTAINED COMPOUNDS ALLOWED FOR THE FIRST TIME TO CONFIRM EXPERIMENTALLY NONEQUIVALENCE OF THE POLAR AND EQUATORIAL FLUORIDE LIGANDS IN OCTAHEDRAL COMPLEXES OF PLATINUM (IV). THE ANALYSIS OF THE UR SPECTRA OF THE OBTAINED COMPOUNDS HAVE CONFIRMED THE NMR F DATA OF OCTAHEDRON DISTORTION IN HEXAFLUOROPLATINATES.

FACILITY: INSTITUT NEORGANICHESKOY KHIMII SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--SYNTHESIS AND X RAY DIFFRACTION STUDY OF TUNGSTEN AND RHENIUM TELLURIDES -U-

AUTHOR-(05)-OPALOVSKIY, A.A., FEDOROV, V.YE., LOBKOV, E.U., ERENBURG, V.G., SENCHENKO, L.N.

COUNTRY OF INFO--USSR

SOURCE--IZV. AKAD. NAUK SSSR, NEORG. MATER. 1970, 6(3), 561-3

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY, MATERIALS

TOPIC TAGS--X RAY DIFFRACTION, TUNGSTEN COMPOUND, TELLURIDE, RHENIUM COMPOUND, CHALCOGENIDE GLASS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/0898 STEP NO--UR/0363/70/006/003/0561/0563

CIRC ACCESSION NO--AP0118067

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 016 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0118067

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. W-TE AND RE-TE MIXTS. AT A METAL CHALCOGEN RATIO OF 1:2 WERE HEATED IN EVACUATED AND SEALED QUARTZ AMPULES AT A RATE OF 8-10DEGREES PER MIN. AND CALCINED AL SUB2 O SUB3 SERVED AS THE DTA REF. THE HEATING CURVES ARE CHARACTERIZED BY 2 HEATING EFFECTS, OF WHICH THE ENDOTHERMAL EFFECT IS CAUSED BY THE MELTING OF TE AND THE EXOTHERMAL EFFECT CORRESPONDS TO OXIDN. OF THE METAL WITH TE. THIS MEANS THAT THE REACTION BETWEEN W AND RE PROCEEDS ONLY WITH FUSED CHALCOGEN. THE RATE OF THE HETEROGENEOUS REACTIONS IS STRONGLY DEPENDENT ON THE INTERACTION SURFACE, WHICH VARIES SIGNIFICANTLY IF GAS IS USED IN THE REACTION. WTE SUB2 WAS SYNTHESIZED AT 750DEGREES FOR 25-30 HR, AND RETE SUB2 AT 800DEGREES FOR 60-5 HR. THE SAMPLES WERE STUDIED BY X RAY PHASE AND IR ANALYSES. THE UNIT CELL PARAMETERS WERE CALCD. BY USING COMPUTERS. THE AGREEMENT BETWEEN THE MEASURED AND THE CALCD. D SUBHKL VALUES WAS NOT VERY GOOD, ESP. IN THE LARGE ANGLES REGION. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--FLUORINE-19 NMR SPECTRA OF SOLUTIONS OF XENON TETRAFLUORIDE IN IODINE PENTAFLUORIDE -U-

AUTHOR-(04)-NIKOLAYEV, A.V., OPALOVSKIY, A.A., NAZAROV, A.S., TRETYAKOV, G.V.

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(3), 629-31

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--XENON COMPOUND, FLUORIDE ISOTOPE, IODINE COMPOUND, NMR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1071 STEP NO--UR/0020/70/191/003/0629/0631

CIRC ACCESSION NO--AT0119930

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AT0119930

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRIMEI9 F CHEM. SHIFTS AND LINEWIDTHS OF NMR SIGNALS OF SOLNS. OF XEF SUB4 IN IF SUB5 AT 3EDEGREES ARE GIVEN. ABSENCE OF LOW FIELD MULTIPLETS OF IF SUB5 WAS PROBABLY DUE TO RAPID EXCHANGE OF THE AXIAL F ATOMS IN IF SUB5 WITH THE EQUATORIAL F ATOMS IN THE PRESENCE OF XEF SUB4. THE RESULTS POINT TO A MOL. NATURE OF THE SOLN. OF XEF SUB4 IN IF SUB5 AND TO STRONGER INTERACTION BETWEEN COMPONENTS OF THE XEF SUB4 IF SUB5 SYSTEM COMPARED WITH XEF SUB4 HF.

FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

UNCLASSIFIED

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"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 015 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--THERMOGRAPHIC STUDY OF THE LOWER FLUORIDES OF XENON -U-

AUTHOR-(03)-NIKOLAYEV, A.V., OPALOVSKIY, A.A., NAZAROV, A.S.

COUNTRY OF INFO--USSR

SOURCE--IZV. SIB. OTD. AKAD. NAUK SSSR, SER. KHIM. NAUK 1970, (1), 171

DATE PUBLISHED--------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMOGRAPHIC ANALYSIS, FLUORIDE, XENON COMPOUND, INERT GAS, ENDOTHERMIC EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1517 STEP NO--UR/0289/70/000/001/0171/0171

CIRC ACCESSION NO--AP0120298

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

2/2 015 UNCLASSIFIED PROCESSING DATE--23OCT7(

CIRC ACCESSION NO--AP0120298

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMOGRAPHIC METHOD FOR CHARACTERIZATION OF THE LOWER FLUORIDES OF XENON (XEF SUB2, XEF SUB4) WAS USED. THERE ARE TWO MIN. ON THE DIFFERENTIAL CURVES CORRESPONDING TO THE ENDOTHERMIC EFFECTS. THE 1ST MIN. 136 PLUS OR MINUS 3DEGREES FOR XEF SUB2 AND 117 PLUS OR MINUS 3DEGREES FOR XEF SUB4 CORRESPOND TO THE M.PS. OF THE COMPDS. THE 2ND MIN. OF THE CURVE 155 PLUS OR MINUS 3DEGREES XEF SUB2 AND 146 PLUS OR MINUS 3DEGREES FOR XEF SUB4 CORRESPON TO THE QUICK PROCESS OF EVAPN. OF THE MELTED FLUORIDES ACCOMPANYING BY HIGH HEAT ABSORPTION. THE LARGE HEATS OF EVAPN. OF FLUORIDES ARE IN GOOD AGREEMENT WITH THE TEMP. OF THEIR ENDOTHERMIC EFFECTS.

FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

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APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

"APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0

1/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70

TITLE--NMR AND INFRARED SPECTROSCOPIC METHODS FOR STUDYING SILVER HYOROGEN FLUORIDES -U-

AUTHOR-(02)-OPALOVSKIY, A.A., TYULENEVA, N.I.

COUNTRY OF INFO--USSR

SOURCE--ZH. STRUKT. KHIM. 1970, 11(1), 27-30

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--IR SPECTROSCOPY, NMR, SILVER COMPOUND, HYDROGEN COMPOUND, FLUORIDE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1995/0929 STEP NO--UR/0192/70/011/001/0027/0030

CIRC ACCESSION NO--AP0116439

UNCLASSIFIED

APPROVED FOR RELEASE: 08/09/2001 CIA-RDP86-00513R002202310010-0"

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2/2 017 UNCLASSIFIED PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116439

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRIME1 H AND PRIME19 F NMR SPECTRA AND IR SPECTRA OF AGF, AGF.HF, AGF.2HF, AGF.3HF, AND AGF.5HF WERE MEASURED AT 20 AND MINUS 100DEGREES. THE COMPDS. WERE PREPD. FROM THE TERNARY SYSTEM AGF-HF-H SUB2 O AND BY THE THERMAL DECOMPN. OF AGF.5HF. THE BAND AT 1160-1190 CM PRIME1 WAS ASCRIBED TO A DEFORMATION VIBRATION OF THE HF SUB2 PRIME NEGATIVE ION; ITS POSITION POINTS TO A WEAKER H BOND IN AGF.HF THAN IN KF.HF. THE NARROW CENTRAL SIGNAL PRESNET IN THE BROAD COMPONENT (HALF WIDTH EQUALS 23 OE, 2ND MOMENT EQUALS 56 OE PRIME2) OF THE PRIME19 F NMR SPECTRUM OF AGF.HF WAS DUE TO RESIDUAL MOBILE HF. THIS CENTRAL SIGNAL WAS MORE INTENSE IN THE CASE OF AGF.2HF. ONE MOL. OF HF EITHER ENTERS THE STRUCTURE OF AGF.2HF OR IS MOBILE. THIS CENTRAL SIGNAL DISSAPPEARED AT MINUS 100DEGREES. THE LOW VALUE OF THE DOUBLET SPLITTING PROBABLY RESULTS FROM THE UNSYM. NATURE OF THE F-HF BOND. FROM THE HALF WIDTH (32 OE) AND THE 2ND MOMENT (100 OE PRIME2) OF THE PRIME19 F NMR SIGNAL OF AGF.5HF, THE EXISTENCE OF POLYMERIC BONDS IN THIS COMPD. IS DEDUCED. FACILITY: INST. NEORG. KHIM., NOVOSIBIRSK, USSR.

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UR 0289

PRIMARY SOURCE: Izvestiya Sibirskogo Otdeleniya, AN SSSR, Seriya Khimicheskikh Nauk, Nr 12(162), Nr 5, pp 62-65

A. A. Opalovsky, V. E. Fyodorov, B. G. Erenburg, E. U. Lobkov, L. N. Sencheako

NEW X-RAY DATA ON TUNGSTEN AND RHENIUM SELENIDES

Complete tables of interplanar disfances for WSe_2 and $ReSe_2$ have been determined; the WSe_2 lattice constants have been corrected. $ReSe_2$ prepared from elements is a new structure modification.

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USSR UDC 632.951

GALETENKO, S. M., and OPANASENKO, G. S., Nikitskiy State Botanical Garden

"Systematic Control by Means of Chemical Agents of the Mite Tetranychus vienensis Zacher in Crimean Orchards"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 9, No 5, 1971, pp 26-28

Abstract: The mite Tetranychus vienensis is one of the most noxious pests damaging fruit crops in the Crimea. Organophosphorus compounds are effective in the control of fruit mites, but cannot be applied constantly and for a long time, because resistance to this and analogous compounds develops. It was established in tests conducted in apple orchards that the acaricides neoron, galecron, chloroethanol, milbex, acrex, acar-50, acar-338, "acaricide," and decachlor can be used to advantage instead of organophosphorus acaricides in controlling T. vienensis. The most effective acaricides of those tested were neoron and galecron, followed by milbex and, in the third place, by chloroethanol. The optimum time for the first spraying of apple trees with an acaricide in the Crimea is in the pink bud phenophase. The second spraying should be carried out at the time when the average number of adult mites amounts to 0.2-0.3 per leaf. This is followed by a number of sprayings that varies depending on the activity of the acaricide. If phthalophos, dipterex,

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GALETENKO, S. M., and OPANASENKO, G. S., Khimiya v Sel'skom Khozyaystve, Vol 9, No 5, 1971, pp 26-28

ormetathion has been used instead of DDT or sevin for the control of the codling moth, the necessity for using an acaricide may substantially decrease.

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USSR UDC 669.25:539.261

ARBUZOV, M. P., PAVLYUKOV, A. A., and OPANASENKO, O. S., Institute of Problems of Material Science, Academy of Sciences Ukrssr

"Initial Stages of Aging of Co-Al Alloys"

Moscow, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1105-1107

Abstract: In order to study possible changes in the structure of the Co-Al (14.6 wt.%) alloy in the earlier stages of aging, the authors studied the structure and coercive force of the alloy using thin (0.3-0.5 mm) Single crystal specimens, annealed in a cooled 10% aqueous solution of NaOH. X-ray studies were performed using monochromatic NiK_α radiation. The experimental data agree well with calculated results from an earlier work. Based on the data and that of earlier works, the authors suggest the following plan for the aging process of the alloy. In the initial stages of decomposition, chaotically placed, three-dimensionally modulated complexes are formed in the supersaturated β' solid solution. As the aging temperature increases, the size of the complexes increases, leading at 450° to formation of the α' phase, having a

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ARBUZOV, M. P., et al, Fizika Metallov i Metallovedeniye, Vol 30, No 5, 1970, pp 1105-1107

hexagonal close-packed lattice. As the α' phase contacts the impoverished matrix, "monoclinic" distortions arise in the matrix as a result of elastic shift of the atomic {110} planes in the <110> directions. At higher aging temperatures (700^0), packing errors appear in the α'-phase crystals. After aging at 750^0, the structure of the alloy consists of two phases -- β' and α. Since packing errors in the α' phase arise before appearance of the α phase in the structure of the alloy, it is possible that they act as seeds for the cubic crystals of the α phase.

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UDC 669.14.018.23

KOZHIN, V. M., KARPOV, A. G., OPANASENKO, T. V., GRISHINA, N. A., and YEROFEYEV, V. I.

"EP378 High-Strength Automatic Stainless Steel"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 10, 1970, pp 25-27

Abstract: A new high-strength automatic stainless steel, type EP378 (0.35-0.45% C; 0.6-1.0% Mn; 1.7-2.2% Ni; 0.6-0.9% Mo; 16.5-18.5% Cr; 0.15-0.25% S; 0.08-0.15% P), is desribed. The new steel has superior physical and mechanical properties to types Kh14, 1Kh18N10Ye, and EI474. The steel is designed for parts of instruments working in friction which must have hardness HRC $\geq$ 48. The critical points for EP378 steel, determined dilatometrically, are: Ac_1 = 750°C; Ac_3 = 820°C; M_n = 220°C. The steel has maximum hardness when hardened from 1040-1060°C. The influence of tempering on mechanical properties is studied. The mechanical properties of the steel are: tensile strength 168-175 kg/mm^2, $\sigma_{0.2}$ = 140-145 kg/mm^2, δ = 8-10%, ψ = 15-17%, a_n = 1.0-1.8 kgm/cm^2, HRC = 48-52. Heat treatment modes are discussed.

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UDC 669.14.018.584.001.6

BABAKOV, A. A., LEVIN, F. L., KONDRAT'YEV, A. I., GOLOVIN, A. I., KUL'KOVA, M. N., DANILYUK, YE. B., PEVZNER, A. YE., OPANEVICH, G. A., and KRAVCHENKO, I. D.

"Experience in Production of Sheet From 25Kh17N4G15AF2 Steel"

Spetsial'nyye Stali i Splavy [Special Steels and Alloys--Collection of Works], No 77, Metallurgiya Press, 1970, pp 124-131

Translation: The first experimental group of 40-mm sheets of type 25Kh17N4G15AF2 high-strength nonmagnetic steel has been manufactured. Based on studies of the specifics of the production of the steel during various stages of the technological process and study of the properties of the metal produced, practical recommendations are given for the production of sheet. 3 figures; 3 tables.

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UDC 620.193.5

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BALAKIN, E. I., ZHUK, N. P., MEYERSON, G. A., OPARA, B. K., and PASHKOVA, O. A., All Union Scientific Research Institute of Hard Alloys, Moscow Institute of Steel and Alloys

"The Method of Producing Ni + ThO_2 Composites and Its Hardening Oxide Content and Their Effect on Heat Resistance"

Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 130-133

Abstract: The heat resistance of Ni with 2, 3.5, and 4.5% by vol ThO_2 was investigated on specimens of dispersion-hardened Ni produced by the method of joint precipitation of Ni and Th from its salt solutions (1) and by the method of precipitation of Ni salt on particles of preliminarily prepared ThO_2 sol (2). Subsequently, the mixes of precipitates were subjected to filtration, drying, and NiO calcination up to Ni in a hydrogen stream followed by compression of the powder-like material and burning of the bruquettes. The baked billets were hot-extruded at 1000° in one operation with 94% reduction. The composition Ni+3.5% by vol ThO_2 produced by method 1 was found to possess a heat resistance 1.1-2.0 times higher than the same composition produced by method 2. The stability decrease of ThO_2 in Ni with increasing temperature is demonstrated. Method 2, 1/2

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BALAKIN, E. I., et al., Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, No 3, 1973, pp 130-133

characterized by a slowly developing process of coagulation, is recommended as the most effective method from the standpoint of heat resistance. Two figures, six bibliographic references.

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JPRS 53779
18 April 73
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UDC 620.193.5

HEAT RESISTANCE OF PRECIPITATION-HARDENED NICKEL

[Article by E.I. Balakin, K.P. Zhuk, G.A. Meyerson, B.K. Opara and G.A. Pashkova, Department of Corrosion, Moscow Institute of Steel and Alloys; Ordzhonikidze, Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, Russian, No 3, 1971, submitted 18 June 1970, pp 101-105]

The contradictions found in literature data on the scale-resistance of precipitation-hardened materials reduce the practical significance of these data and hamper understanding of the oxidation mechanism of these materials. On the basis of these data it is still not possible to foresee the effect of heat-resistance change in nickel while hardening it with different oxides. Table 1 gives the materials and their characteristics as investigated in this work.

Table 1. Composition and characteristics of initial materials.

(a) Материал	(b) Содержание упрочняющего окисла, об. %	(c) Относительная плотность, %	(d) Количество частиц (%) размером (Å): (f) до 100	100—500	500—1000	(g) свыше 1000	(h) Средний размер частиц, Å	(e) Среднее расстояние между центрами частиц, мкм
Ni	0	99.9	—	—	—	—	—	—
Ni + ThO_2	3	99.7	18	69	12	1	258	0.39
Ni + ZrO_2	3	99.8	6	48	32	14	430	0.42
Ni + HfO_2	5	99.8	4	36	40	20	650	0.51
Ni + TiO_2	3	99.7	2	31	42	25	517	0.53
Ni + Al_2O_3	3	99.7	2	35	47	16	645	0.47

Key: a--Material
b--Content of hardening oxide, volume %
c--Relative density, %
d--Quantity of particles (%) with size (Å)
e--Average distance between particle centers, microns
f--Less than
g--Greater than
h--Average particle size, Å

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Food Technology

USSR

OPARIN, A., Academician

"Learning the Secret of the Living"

Moscow, Selskaya Zhizn', 2 Mar 74, p 2

Academician, Hero of Socialist Labor Aleksandr Ivanovich Oparin is a major scientist-biochemist. He is well known both in our country and abroad. The renowned scientist today marks his 80th birthday. During the 60 years of his scientific-teaching and public activity he has made a great contribution to the working out of a number of major problems in the natural sciences, and to the training of scientific personnel. In the presently published article the scientist tells about achievements by Soviet biochemists, and their contribution to the resolution of vital problems in the development of agriculture and to industry.

At the basis of life in any organism -- man, animal or plant, lies its interaction with the environment and the internal metabolism. Compounds entering an organism from the environment undergo in that organism a number of chemical transformations as a result of which they are converted into substances of the organism itself -- proteins, nucleic acids, fats, carbohydrates,

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OPARIN, A., Selskaya Zhizn', 2 Mar 74, p 2

etc. However, these very compounds which form cellular structures do not remain unchanged, as they are constantly decomposing and the products of that decomposition once again are returned to the environment. But in order that the vitally important structure not disappear as a result of that decomposition, their constant restoration is essential, that is that new molecules take the place of each decomposed molecule, and new structures replace each structure that has disappeared.

In this way, any organism, in retaining its composition and structure as constant to a certain degree, at the same time are continuously changing materially, as new molecules of matter are continually entering the organism and leaving it.

The profound study of the metabolism that lies at the basis of vital processes -- is the principal direction in the work of biochemists. It is of exceptionally important significance both for understanding the very essence of life as it is for practical activity of man, particularly in the field of medicine, agriculture and the food industry.

The collective of scientists at the Order of Lenin Institute of Biochemistry imeni A. N. Bakh of the USSR Academy of Sciences is the basic center of biochemical research, and from the very beginning of its activity

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OPARIN, A., Selskaya Zhizn', 2 Mar 74, p 2

has been guided by the principle of the indivisibility of theory and practice. In conducting its investigations on a high theoretical and methodological level, the scientists of that institute are striving to utilize as fully and as quickly as possible the results which they have obtained for the welfare of the Soviet people.

As early as the prewar period Soviet biochemists have been playing an important role in the transition of our food industry from primitive methods of production to industrial ones. Whereas earlier it was undertaken to a significant degree in an empirical manner, "by feeling one's way along," where masters adopted purely practical skills inherited by them "from their fathers" whose sense was far from being understood at all times, in machine production, with its flowing system and rigid work schedules, it has become impossible to proceed without rational, previously established technological schemes, without an objective biochemical control of the quality of raw materials and the course of production processes.

In various production mixtures, for example, in dough, fermenting wort, fermenting tea or tobacco, complex biochemical (principally enzymatic) processes take place as a result of which the original plant or animal raw product acquires new qualities -- that are more assimilable, better in taste,

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aroma, etc. The task of the technologist, as is known, is to direct the sum of all those processes in the necessary direction. It is clear that this task can be rationally resolved only on the basis of a profound understanding of the biochemical processes that are taking place and by an ability to control it.

The Institute of Biochemistry is broadly utilizing its theoretical developments on a practical scale which have been obtained in laboratories and directly at the plants. Such sectors of the industry as the tea, wine-making, bread baking, sugar, tobacco, vitamin and other industries were to a significant degree rationalized, and in certain cases were even reconstructed on the basis of our institute's work.

In particular, many years of research in the area of grain and bread biochemistry has made it possible to clarify the essence of many important indices of grain and flour quality, as well as clarify those changes which occur on the part of grain components in the process of its drying, storage, conditioning, and milling. Identified have been factors which determine bread-baking qualities of flour, and methods for improving it have been proposed.

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The flour-milling and bread baking properties of wheat, as is known, depend on their content of protein substances and on the quality of the protein glutens. However, as investigations by Soviet biochemists have shown, the physical properties of gluten proteins, in their turn, are determined by the activity of proteolytic enzymes, the "attackability" of gluten proteins by proteids, as well as by substances contained in the flour which activate the action of proteolytic enzymes.

Investigations have shown that in the processes occurring during the preparation of bread, enzymatic reactions played a primary role. Good bread can be produced only when the technologist is able to combine harmonically the rate of chemical conversions with the speed of the microbiological processes that are occurring in the dough. This is particularly important to consider now when complex mechanization and automated production, new progressive techniques of bread manufacture are being introduced into the bread baking industry on a wide scale. The necessity to find ways and methods of the directed control of bread-baking processes is growing by a great degree.

The purpose is being served by the method worked out by biochemists

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OPARIN, A. Selskaya Zhizn', 2 Mar 74, p 2

for using enzymatic preparations that have been extracted from microorganic cultures, particularly mold fungi. Deep enzymatic hydrolysis of high-molecular proteins and hydrocarbons that is accomplished under the influence of amino-lytic and proteolytic enzymes, make it possible to improve significantly the quality of bread, including such important features as taste and aroma.

Many facts indicate the fruitful participation of biochemists in the resclution of vital tasks in the area of agriculture and the food industry. I will cite just a few examples. As is known, what is important in livestock breeding is a balanced, full valued feeding of cattle and poultry that have the necessary nutritive substances. Products of vegetable origin serve as the basis for forage. But the majority of vegetable proteins are not complete, as they contain relatively few indispensible amino acids, such as for example, lysine. Therefore, they are far from being fully capable of utilization by animals for building their own protein. Scientists of our institute have worked out a method for the industrial production of lysine. Now, a plant which is capable of producing a thousand tons of lysine per year is already operating by that method. Broad experiments in adding the indicated preparation to a combined forage have indicated that it significantly

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increases the productivity of animals, increases the yield of their products in proportion to a unit of fodder.

A highly economic method for the production of vitamin B_{12} by means of the thermophilic fermentation of waste products from acetone-butyl and alcohol plants has also been worked out. A fodder concentrate of vitamin B_{12} fed to swine and fowl makes it possible to increase weight by 15-30 percent while using the same amounts of feed. The high effectiveness of vitamin B_{12} is conditioned by the fact that it stimulates the biosynthesis of the indispensible amino acid -- methionine in the very organism of the animal, and thereby increasing the value of vegetable origin proteins.

Of considerable significance for livestock breeding is the use of enzyme preparations that decompose the cellular tissue of plants. They enrich ensilaged feed that is formed in the decomposition of the cell tissue by sugar and, what is most important, decompose the cell wall and increase the digestibility of the feed.

One of the most important problems in agriculture is, as is known, an increase in the immunity of plants to various diseases. Biochemists are actively participating in the resolution of that problem. In particular,

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many important questions in controlling such dangerous diseases as cotton wilt and phytophthora infections of potatoes have been worked out at the Institute of Biochemistry. Biochemists have contributed towards making a significant improvement in the matter of storing vegetables and fruits.

I consider it especially important to note the method for storing potatoes for technical and production use with the aid of active ventilation. The study of processes that take place in early injuries of a tubercle and in its subsequent healing have shown that the significance of active ventilation is not at all limited only to a reduction of temperatures (as was considered earlier), but to an intensification of the oxidation processes. This has made it possible to work out new regimes of active ventilation which have by many times exceeded the effectiveness of that method.

At the present time scientists are devoting much attention to predicting the prospects for the scientific-technical and economic development of our country. Occupying a large place in that prognosis are problems of the rational, scientifically substantiated nutrition of man, and of ways for guaranteeing that nutrition. Biochemists are taking a most active part both

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in the working out of that kind of prognoses and in the search for ways of assuring a rational, balanced nutrition for all the population of our country.

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UDC 576.1

OPARIN, A. I., Institute of Biochemistry imeni A. N. Bakh, Academy of Sciences USSR

"History of the Creation and Development of a Theory of the Origin of Life"

Moscow, Izvestiya Akademii Nauk SSSR, Seriya Biologicheskaya, No 6, Nov/Dec 72, pp 799-803

Abstract: A theory of evolutionary development of the origin of life was postulated 50 years ago by the author, The theory, which asserts the formation of organic compounds before life on earth which reacted to form organisms, has been expanded. These organic compounds were found to exist even before formation of our planet. Earliest forms of life lacked the completeness and adaptation to certain functions present today, though they were polymers similar to contemporary cells and nucleic acids. The author criticizes attempts to construct contemporary molecules adapted to life in an intact organism. No one path of development was destined to occur. However, organic substances in certain instances reacted to form biological systems. They occurred due to the variety of molecular structures and conditions. Adaptation for self-preservation resulted from natural selection. The development of simple life forms possessing polynucleotides and polypeptides which furthered the gathering, preserving and transmittal of information led to survival of these systems.

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1/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

TITLE--STRUCTURAL ORGANIZATION OF THE PROTEIN SYNTHESIZING SYSTEM OF CHLOROPLASTS -U-

AUTHOR-(04)-FILIPPOVICH, I.I., TONGUR, A.M., ALINA, B.A., OPARIN, A.I.

COUNTRY OF INFO--USSR

SOURCE--BIOKHIMIYA 1970, 35(2), 247-56

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2/2 009 UNCLASSIFIED PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0139059

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PROTEIN SYNTHESIZING CAPACITY AND THE ELECTRON MICROSCOPIC APPEARANCE OF DIFFERENT RIBOSOME FRACTIONS WERE STUDIED. RIBOSOMES FROM CHLOROPLASTS OF PEA SEEDLINGS WERE DISASSOCD. STEPWISE FROM LAMELLAR STRUCTURES, PROTEINS, AND LIPOPROTEINS BY CONTROLLED TREATMENT WITH NA DEOXYCHOLATE AND FROM CONNECTED NUCLEI ACIDS BY TREATMENT WITH DNASE, TRITON X-100, AND NA DODECYL SULFATE. THE DIFFERENT RIBOSOME PREPNS. THUS OBTAINED WERE SEPD. INTO COMPONENTS BY CENTRIFUGATION IN A SUCROSE GRADIENT. AS EVIDENCED BY ELECTRON MICROSCOPY, THE EFFECT OF DETERGENTS WAS TO SOLUBILIZE FIRST THE THYLAKOID BINDING LIPOPROTEINS, AND THEN THE LIPOPROTEINS LOCATED INSIDE THE INDIVIDUAL THYLAKOIDS. FURTHER REMOVAL OF LIPOPROTEINS AND PROTEINS FROM THESE STRUCTURES LED TO THE LIBERATION OF CYCLIC POLYRIBOSOMES, WHICH WERE STILL CONNECTED TO DNA MOLS./ IT IS SUGGESTED THAT EACH SEGMENT OF DNA IS COUPLED WITH CYCLIC POLYRIBOSOMES AND EMBEDDED IN A THYLAKOID. FACILITY: A. N. BAKH INST. BIOCHEM., MOSCOW, USSR.

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UDC: 577.1

"Second All-Union Biochemical Congress"

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Abstract: The Second All-Union Biochemical Congress was held on 20-28 Oct 69 at Tashkent under the auspices of the Uzbek Department of the All-Union Biochemical Society. Symposia on evolutionary biochemistry, the connection between the structure and functions of proteins, the biosynthesis of proteins, the biochemistry of membranes, biological oxidation, the functional biochemistry of cell structures, the regulation of enzymatic processes, the structure and function of muscles, and other subjects were conducted. The introductory lecture, which dealt with the evolutionary aspects of nucleic acids, was given by A. N. BELOZERSKIY (Moscow). A leading report in the symposium on evolutionary biochemistry was presented by A. I. OPARIN (Moscow), who discussed theories and experimental results pertaining to the origin of life on earth. A report by V. A. STEPANOV (Moscow) dealth with the evolution of protein enzymes. In the symposium on the biosynthesis of proteins, A. A. BAYEV (Moscow) reported the results of work on the structure of various t-RNA and the properties of molecular fragments of valine t-RNA. In the course of this work, for which a State Prize was awarded, the succession of nucleotides in the valine t-RNA chain was fully clarified. A paper by L. L. KISELEVA

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